Kingbright

XPower

PRELIMINARY SPEC

Part Number: KAD1-1010SEC28

Reddish-Orange

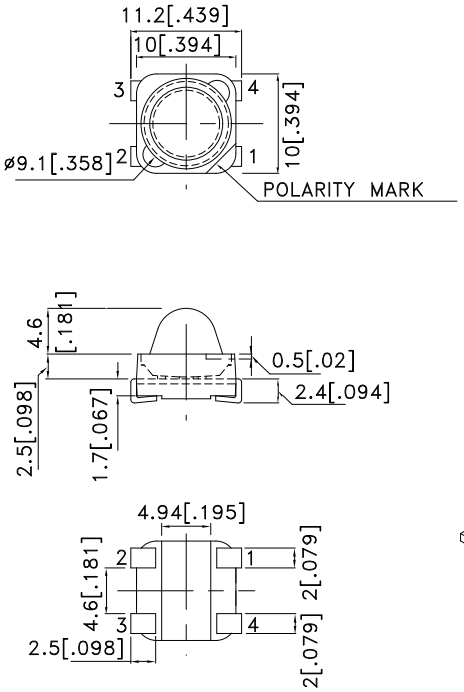
Features

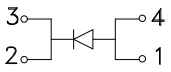
- PLCC-4 PACKAGE.
- SINGLE COLOR.
- HIGH LUMINANCE.
- HIGH POWER,OPERATING CURRENT @350mA.
- SUITABLE FOR ALL SMT ASSEMBLY METHODS.
- PACKAGE : 300PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- RoHS COMPLIANT.

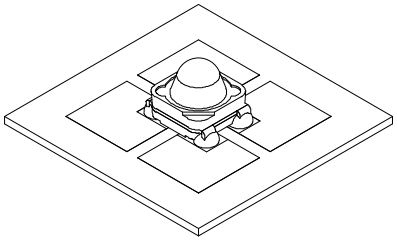
Applications

- traffic signaling.
- backlighting (illuminated advertising , general lighting).
- interior and exterior automotive lighting.
- substitution of micro incandescent lamps.
- portable light source (e.g. bicycle flashlight).
- signal and symbol luminaire for orientation.
- marker lights (e.g. steps, exit ways, etc).
- decorative and entertainment lighting.
- indoor and outdoor commercial and residential architectural lighting.

Package Dimensions







Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications

Selection Guide

Part No.	Dice	Lens Type	luminous Intensity [2] Iv(cd)@ 350mA		Φv (lm) [2] @ 350mA	Viewing Angle [1]
			Min.	Typ.	Typ.	2θ1/2
KAD1-1010SEC28	Reddish-Orange (InGaAlP)	WATER CLEAR	160	300	27.25	20°

Notes:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity / luminous flux: +/-15%.

Absolute Maximum Ratings at T_A=25°C

Parameter	Symbol	Value	Unit
Power dissipation	P_t	1.2	W
Reverse Voltage	V_R	5	V
Junction temperature	T_J	110	°C
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
DC Forward Current[1]	I_F	350	mA
Peak Forward Current [2]	I_{FM}	500	mA
Thermal resistance [1]	R_{th}	60	°C/W

Notes:
1.Results from mounting on PC board FR4(pad size≥100mm^2), mounted on pc board-metal core PCB is recommend for lowest thermal Resistance.
2.1/10 Duty Cycle, 0.1ms Pulse Width.

Electrical / Optical Characteristics at T_A=25°C

Parameter	Symbol	Value	Unit
Wavelength at peak emission I_F=350mA [Typ.]	λpeak	640	nm
Dominant Wavelength I_F=350mA [Typ.]	λ dom [1]	625	nm
Spectral bandwidth at 50%$\Phi_{REL\ MAX}$ I_F=350mA [Typ.]	Δλ	30	nm
Forward Voltage I_F=350mA [Min.]	V_F [2]	2.0	V
Forward Voltage I_F=350mA [Typ.]		2.5	
Forward Voltage I_F=350mA [Max.]		3.0	
Reverse Current (V_R=5V) [Max.]	I_R	10	μA
Temperature coefficient of λpeak I_F=350mA, -10°C≤ T≤100°C [Typ.]	TCλpeak	0.14	nm/°C
Temperature coefficient of λdom I_F=350mA, -10°C≤ T≤100°C [Typ.]	TCλdom	0.12	nm/°C
Temperature coefficient of V_F I_F=350mA, -10°C≤ T≤100°C [Typ.]	TC$_V$	-3.0	mV/°C

Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

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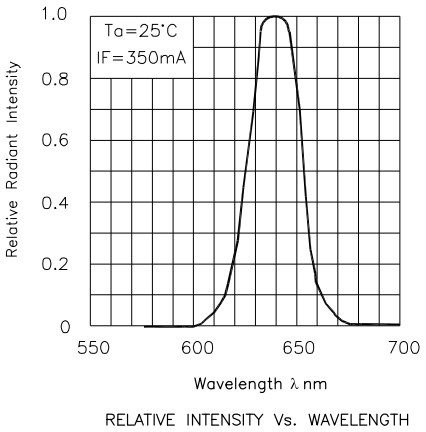
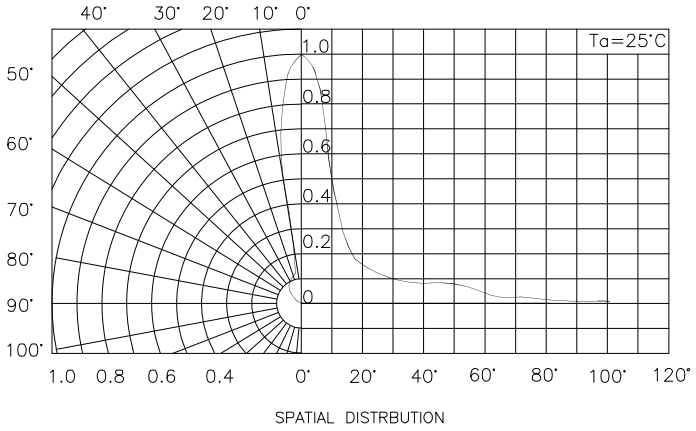
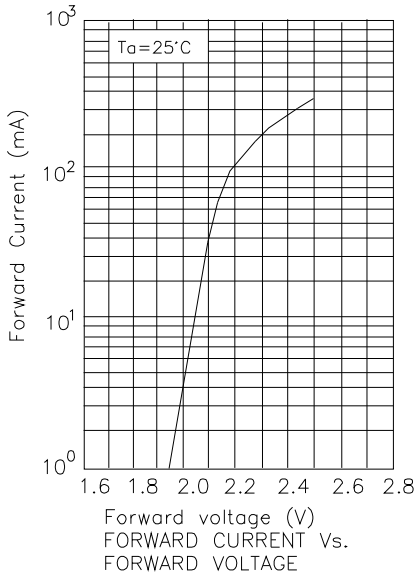


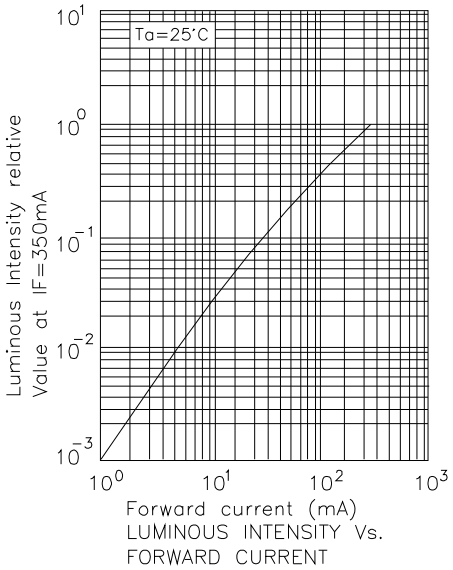
RELATIVE INTENSITY Vs. WAVELENGTH



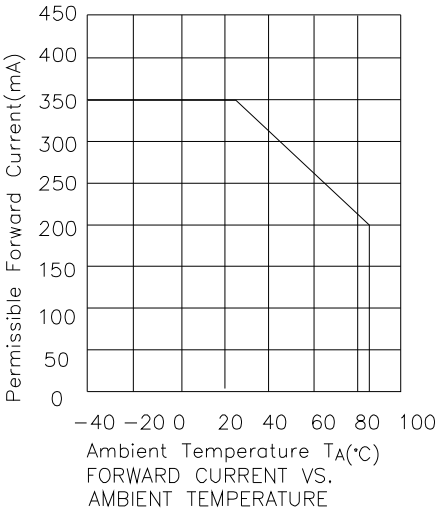
SPATIAL DISTRBUTION



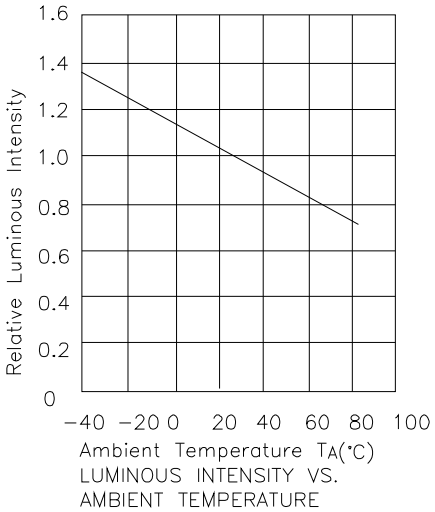
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT VS.
AMBIENT TEMPERATURE



LUMINOUS INTENSITY VS.
AMBIENT TEMPERATURE

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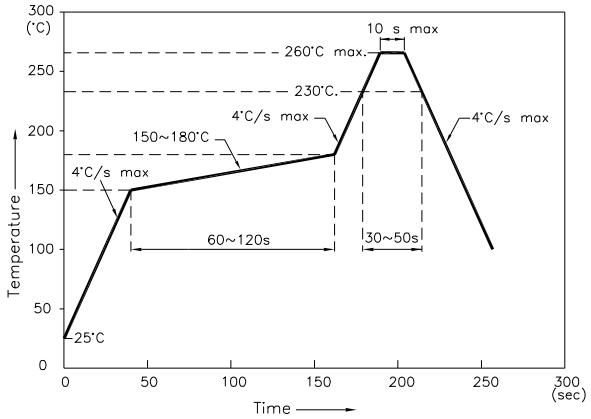
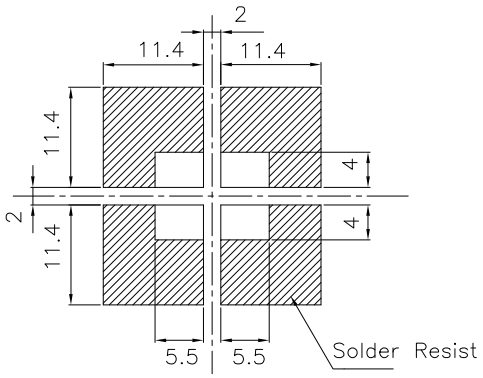
Reflow Soldering Profile For Lead-free SMT Process.



NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

Recommended Soldering Pattern
(Units : mm; Tolerance: ±0.1)



Tape Specifications
(Units : mm)